**SUPPLEMENTAL MATERIAL**

**Supplemental Table S1.** Details of the cycling tour

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Days | City of departure  | City of arrival | Kilometers | Altitude change (m) | Cycling duration (hours) | Lunch break(min)  | Time spent in very light activity (%) | Time spent in light activity (%) | Time spent in moderate activity (%) | Time spent in vigorous activity (%) [among which, very vigorous and maximal intensities] | Percentage of time CGM was active |  |
| Day 1 | Brussels | Cambrai | 157 | 1000 | 5.5 ± 1.1 | 55.9 ± 23.3 | 0.32 ± 0.59 | 18.6 ± 11.4 | 39.5 ± 15.6 | 41.6 ± 15.9 [0.81 ± 2.07 and 0.03 ± 0.08]  | 71.1 ± 36.7 |  |
| Day 2 | Cambrai | Reims | 163 | 1724 | 6.6 ± 1.5 | 47.5 ± 8.8 | 0.02 ± 0.03 | 10.0 ± 8.2 | 36.4 ± 13.9 | 53.6 ± 20.9 [0.80 ± 2.25 and 0.03 ± 0.07]  | 82.4 ± 30.4 |  |
| Day 3 | Reims | Paris | 167 | 1767 | 7.2 ± 1.6 | 41.9 ± 9.0 | 0.09 ± 0.23 | 13.1 ± 15.7 | 46.9 ± 15.0 | 39.9 ± 24.8 [0.19 ± 0.50 and 0.00 ± 0.00] | 73.3 ± 30.6 |  |
| Day 4 | Paris | Paris | 0 | 0 | 0 | / | / | / | / | / | / |  |
| Day 5 | Paris | Troyes | 187 | 1678 | 6.3 ± 1.4 | 42.9 ± 13.1 | 0.17 ± 0.49 | 15.1 ± 15.8 | 49.4 ± 10.8 | 35.4 ± 23.4 [0.00 ± 0.00 and 0.00 ± 0.00]  | 83.2 ± 21.8 |  |
| Day 6 | Troyes | Langres | 161 | 1876 | 6.0 ± 1.3 | 39.1 ± 15.4 | 0.25 ± 0.59 | 11.6 ± 12.9 | 46.8 ± 14.5 | 41.3 ± 23.9 [0.14 ± 0.42 and 0.00 ± 0.01] | 87.8 ± 24.0 |  |
| Day 7 | Langres | Belfort | 188 | 2239 | 6.5 ± 1.5 | 50.1 ± 10.7 | 0.21 ± 0.28 | 19.7 ± 18.7 | 45.7 ± 12.7 | 34.4 ± 23.2 [0.02 ± 0.06 and 0.02 ± 0.05]  | 84.5 ± 18.6 |  |
| Day 8 | Belfort | Yverdon-les-Bains | 167 | 3395 | 7.1 ± 1.5 | 52.4 ± 9.2 | 0.64 ± 1.91 | 12.1 ± 9.8 | 45.5 ± 15.4 | 41.3 ± 23.9 [0.09 ± 0.20 and 0.00 ± 0.00] | 80.9 ± 18.9 |  |
| Day 9 | Yverdon-les-Bains | Morzine | 141 | 3455 | 5.9 ± 1.2 | 64.1 ± 18.8 | 0.49 ± 0.80 | 15.9 ± 11.4 | 37.9 ± 12.9 | 45.7 ± 14.5 [0.39 ± 1.16 and 0.00 ± 0.01] | 88.5 ± 23.2 |  |
| Day 10 | Morzine | Geneva | 125 | 3582 | 4.3 ± 0.8 | 50.8 ± 15.1 | 1.83 ± 3.92 | 16.9 ± 12.2 | 35.4 ± 12.5  | 45.7 ± 12.2 [0.00 ± 0.00 and 0.03 ± 0.06] | 92.2 ± 10.0 |  |
| Total (for km and altitude) or mean ± SD, over the 9 days | **Brussels** | **Geneva** | **1456** | **20 716** | **6.2 ± 1.3** | **39.4 ± 13.7** | **0.44 ± 0.98** | **14.8 ± 12.9** | **42.6 ± 13.7** | **42.2 ± 18.9 [0.27 ± 0.74** **and 0.01 ± 0.03]** | **/** |  |

Mean ± SD; Relative intensity as % of maximal heart rate for the different target intensity ranges: very light activity, <35 %; light activity, 35-54 %; moderate activity, 55-69 %; vigorous activity >70 % [including very vigorous activity, 90-100%, and maximal activity, >100 %]; Riders spent a major part of the cycling period at moderate (i.e., 160.0 ± 38.3 min, mean over the 9 days) and vigorous (i.e., 155.1 ± 27.0 min, over the 9 days) intensities, while time spent in very light, light, very vigorous or maximal intensities was shorter (i.e., 1.43 ± 2.13, 52.40 ± 10.40, 1.00 ± 1.17, and 0.03 ± 0.03 min, respectively).

**Supplemental Figure S1: Percentage of time spent in hypo-, normo- and hyperglycemia during cycling and post-exercise recovery periods throughout the tour**

A

B

C

Legend.

Black bars, percentage of time spent below 70 mg.dL-1; Clear bold hatch bars, percentage of time spent between 70 and 180 mg.dL-1; White bars, percentage of time spent above 180 mg.dL-1.

 **1A.** N=9; during the cycling period, effects of time (*i.e.,* days 1 to 10, except for day 4) for percentage of time spent: < 70 mg.dL-1, e: − 0.28, *P* < 0.05; > 180 mg.dL-1, e: + 0.49, *P* = 0.06; in addition, there was also a decrease in time (%) spent < 54 mg.dL-1, e: − 0.28, *P* < 0.05 and an increase in time (%) spent > 250 mg.dL-1, e: + 0.31, *P* < 0.05 and > 300 mg.dL-1, e: + 0.35, *P* < 0.05; SD values varied between 2.69 and 22.85%, 18.95 and 44.64%, 4.29 and 47.37% for time spent below range, in range, and above range, respectively.

**1B.** N=19; during the 2 hours of post-exercise recovery, effects of time for percentage of time spent: < 70 mg.dL-1, e: − 0.23, *P* < 0.05; 70-180 mg.dL-1, e: − 3.95, *P* < 0.01; > 180 mg.dL-1, e: + 0.26, *P* < 0.001; in addition, there was also a marginal increase in time (%) spent > 300 mg.dL-1, e: + 0.34, *P* = 0.07; SD values varied between 2.38 and 29.49%, 16.41 and 36.18%, 12.00 and 40.32% for time spent below range, in range, and above range, respectively.

**1C.** N=19; during the 6 hours of post-exercise recovery, effects of time for percentage of time spent: < 70 mg.dL-1, e: − 0.15, *P* < 0.05; 70-180 mg.dL-1, e: − 1.57, *P* = 0.09; > 180 mg.dL-1, e: + 0.17, *P* < 0.05; in addition, there was also a significant decrease in time (%) spent < 54 mg.dL-1, e: − 0.20, *P* < 0.05; SD values varied between 3.64 and 23.76%, 26.50 and 39.97%, 21.55 and 40.88% for time spent below range, in range, and above range, respectively.

**Supplemental Figure S2: Glycemic variability throughout the cycling tour**

**A**

**B**

**C**

Legend.

**2A.** Mean Amplitude of Glycemic Excursions (MAGE) throughout the tour

Solid line with white circles -○- during the cycling periods (n=9), effect of time, e: + 5.79, *P* < 0.05; Dotted line with white squares --□-- during the 2 hours of post-exercise recovery (n=19), effect of time, e: + 4.59, *P* = 0.07; Solid line with black squares-■- during the 6 hours of post-exercise recovery (n=19), effect of time, e: + 4.26, *P* < 0.05.

**2B.** Daytime (8 AM to 8 PM) Continuous Overall Net Glycemic Action (CONGA) 1 throughout the tour (n=20); effect of time, e +2.16, *P* < 0.001; in addition, there was also a significant increase in daytime CONGA 2 and SD throughout the tour, e: + 2.02, *P* < 0.001 and e: + 1.28, *P* < 0.01.

**2C.** Nighttime (midnight to 4 AM) Continuous Overall Net Glycemic Action (CONGA) 1 throughout the tour (n=20); CONGA 1 from the last (i.e., the 10th) night is not indicated because several riders decided to remove their CGM before this night; effect of time, e: + 1.67, *P* < 0.001; In addition, there was also a significant increase in nighttime CONGA 2 throughout the tour, e: + 2.17, *P* < 0.001.

In addition, there was a significant increase in Standard Deviation of glycemia (SD), CONGA 1, and CONGA 2 during the cycling periods (effect of time, e: + 1.54, *P* < 0.05; e: + 1.85, *P* < 0.01; and e: + 2.02, *P* < 0.01, respectively).